

Exhibit B

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

GOOGLE LLC,

Plaintiff

v.

SONOS, INC.,

Defendant.

CASE NO. 3:20-cv-06754-WHA

Related to CASE NO. 3:21-cv-07559-WHA

**OPENING EXPERT REPORT OF DR. DAN SCHONFELD REGARDING CLAIM 1 OF
U.S. PATENT NO. 10,848,885**

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of a device or group for synchronized playback of media, however the synchronization is the start of the process. Whereas invocation of a scene which adds a playback device or group thereof as claimed causes the added playback device(s) to join with a particular playback device currently playing media and output said media in synchrony with the particular playback device without a pause or interruption of the playing media nor any need for a user to further engage with playback controls of the playing media. The Bose teaches a system which allows for synchronous addition of media players to a playback system while delivering a playing media without interruption. Bose displays static groupings of media players attached as "rooms" and the rooms may be individually activated and individually configured for delivery of a synchronous media and/or grouped into a party mode where all rooms synchronously deliver a common media. As such Bose does not allow dynamic additions and subtractions such as the synchronous addition of a particular third media player and removal of a second media player in substantially real time by the selection of an appropriately configured scene, nor does Bose enable scene-wise storage of such diverse groupings of media players.

Cite.

E. Effective Priority Date

40. The filing date of the '885 patent is April 12, 2019, and the patent claims priority to an earlier application with a priority date of September 11, 2007. I also understand that Sonos has alleged that the '885 patent is entitled to an earlier effective filing date, September 12, 2006. Sonos has also claimed a conception date of December 21, 2005.

67. I discuss Sonos's entitlement to an earlier priority date in Section XI. As described therein, I do not agree that Sonos adequately disclosed the invention or was in possession of the invention at an earlier date. However, the prior art cited in this Report is invalidating even under Sonos's earliest claimed conception date, as described in this Report.

VI. STATE OF THE ART

68. In this section, I provide an overview of the state of the art at the time of Sonos's alleged invention date (December 21, 2005).

69. As described below, speaker system, digital networking, remote control of speaker systems, digital music, speaker groups, and customization of home speaker systems was well

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(xi) *Limitation 1.10: “based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.”*

700. In my opinion, Bose LifeStyle discloses this claim limitation.

701. As described in the previous claim elements, a user may select a synchronization group for playback using the Player selector box, and use the playback controls to cause Bose LifeStyle to operate as a synchronous playback group.

XI. INVALIDITY BASED ON SECTION 112

702. In my opinion, the specification of the ’885 patent fails to convey with reasonable clarity to those skilled in the art that, as of the filing date, the named inventor was in possession of the invention. Sonos filed the application that led to the ’885 Patent on April 12, 2019, but that patent application claims priority through a long chain of continuation applications back to a provisional application filed on September 12, 2006. In the intervening 13 years of patent prosecution, Sonos added new matter during the claim amendment process that was not originally disclosed.

703. In the original application, the claims related to configuring the zone scene. In the 2019 patent application, the claims cover an intricate set of instructions for putting particular “zone players” into particular “scenes” in a particular order. Claim 1 is set out below:

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1. A first zone player comprising:

a network interface that is configured to communicatively couple the first zone player to at least one data network;

one or more processors;

a non-transitory computer-readable medium; and

program instructions stored on the non-transitory computer-readable medium that, when executed by the one or more processors, cause the first zone player to perform functions comprising:

while operating in a standalone mode in which the first zone player is configured to play back media individually in a networked media playback system comprising the first zone player and at least two other zone players:

(i) receiving, from a network device over a data network, a first indication that the first zone player has been added to a first zone scene comprising a first predefined grouping of zone players including at least the first zone player and a second zone player that are to be configured for synchronous playback of media when the first zone scene is invoked; and

(ii) receiving, from the network device over the data network, a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players including at least the first zone player and a third zone player that are to be configured for synchronous playback of media when the second zone scene is invoked, wherein the second zone player is different than the third zone player;

after receiving the first and second indications, continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation;

after the given one of the first and second zone scenes has been selected for invocation, receiving, from the network device over the data network, an instruction to operate in accordance with a given one of the first and second zone scenes respectively comprising a given one of the first and second predefined groupings of zone players; and

based on the instruction, transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players such that the first zone player is configured to coordinate with at least one other zone player in the given one of the first and second predefined groupings of zone players over a data network in order to output media in synchrony with output of media by the at least one other zone player in the given one of the first and second predefined groupings of zone players.

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704. Generally, the claim requires a first zone player to operate in “standalone mode” and play back media “individually.” Then the first zone player is added to a zone scene including the first zone player and a second zone player. Then the first zone player is added to another zone scene, including the first zone player and a third zone player. Adding the first zone player to the two scenes does not change the first zone player from continuing to play back media individually until one of the zone scenes is “invoked,” which causes the first zone player to “transition” from individually playing back media to playing back media as part of the invoked zone scene.

705. The specification never discloses this specific set of operations. Instead, the specification discloses a home audio system including “zone configurations,” speaker groups, and “zone scenes.” It does not describe how those limitations are combined, what happens when they are combined as set forth in the claim, or even whether zone scenes can include a shared zone player. A person of skill in the art reading the patent specification would not understand the patent to disclose this particular claimed set of operations.

706. First, the specification does not provide support for the claim limitation “a second indication that the first zone player has been added to a second zone scene comprising a second predefined grouping of zone players” because the specification never discloses that a zone player may be added to two zone scenes at the same time. The claims require that the first zone player is added to both a first and a second zone scene, but there is no description, or even an illustration, of adding a first zone player to two different scenes of zone players. Indeed, in the figures showing which zones can be added to a “zone configuration” or “scene,” there is no disclosure of adding the same zone (e.g., bathroom) to multiple zone configurations or scenes. As shown below, in Figure 3A (from the original ’206 Patent), the “zone configuration / scene” includes the bedroom, den, and dining room. The bedroom, den, and dining room are not included in any other zone

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configurations or scenes.

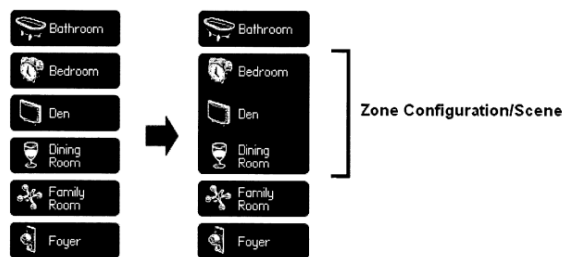


FIG. 3A

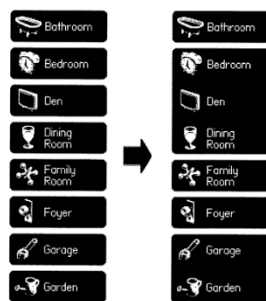


FIG. 3B

707. There are no embodiments disclosed in the specification showing a zone player included in more than one scene or even more than one group. While the figures above show including particular zones in a scene, there is only a single scene and as a result no overlap of zone players within multiple scenes. Nor would a person of ordinary skill in the art have understood the specification to contain an equivalent description.

708. The closest the specification comes to disclosing scenes with overlapping zone players is the following portion of the specification:

In order to satisfy such requirements, two groups of audio players must be established. In the morning, the audio players in the bedroom, the bathroom and the den need to be grouped for the broadcast news. In the evening, the audio players in the den and the living room are grouped for the music. Over the weekend, the audio players in the den, the living room, and a kitchen are grouped for party music. Because the morning group, the evening group and the weekend group contain the den, it can be difficult for the traditional system to accommodate the requirement of dynamically managing the ad hoc creation and deletion of groups. '885 Pat. at 2:5-12.

709. But this disclosure actually teaches away from having scenes existing at the same

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time with overlapping zone players. Rather, the specification teaches that the three groups exist at different times—one in the morning, one in the evening, and one over the weekend. The specification offers the solution that “[w]ith a minimum manipulation, the audio players may be readily grouped,” but this does not disclose that speakers may belong to more than one group at any given time, and neither does the specification’s generic recital that “there is a need to individually or systematically adjust the audio volume of the audio players.” *Id.* at 2:18-20.

710. Second, the specification does not provide support for the claim limitations “continuing to operate in the standalone mode until a given one of the first and second zone scenes has been selected for invocation” and “transitioning from operating in the standalone mode to operating in accordance with the given one of the first and second predefined groupings of zone players.” The specification provides no description or figures describing what happens when a speaker in “standalone mode” (a term never used in the specification) is added to multiple zone scenes and then one of those zone scenes is later invoked. Because the inventors did not contemplate having speakers in overlapping zone scenes, the specification does not disclose what might happen when a speaker playing back music individually is added to a zone scene. For example, the specification could have disclosed that the speaker begins playing back whatever music the zone scene requires when added to that scene, or it could have recited that the speaker discontinue playing any music when it is added to the zone scene, or it could have recited asking the user for guidance as to continue playing music or transitioning to whatever music is playing in the zone scene. Instead, the specification is completely barren on this issue. The closest disclosure in the specification is the following:

upon the activation of a saved scene, the process 600 checks the status of the players associated with the scene. The status of the players means that each of the players shall be in condition to react in a synchronized manner. ’885 Pat. at 10:56-58.

711. But this portion of the specification only discloses that upon “activation” of a scene,

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the players are in condition to react in a synchronized manner. It does not describe the behavior of players when added to multiple scenes, and in particular it does not describe that players in “standalone” mode (which is never mentioned in the specification) continue as if they had not been added to any zone scene at all.

712. To the extent Sonos seeks to rely on the provisional application (SONOS-SVG2-00033730) for written description support, that too is insufficient. Although an “appendix” to the provisional application includes a section titled “What happens to the Music that’s already playing when a Zone Scene is started,” that section does *not* disclose the claimed method. SONOS-SVG2-00167534 at 537. Rather, the provisional appendix teaches that “if music is playing in one or more zones there are several possibilities (TBD),” showing that this was an issue the inventors considered but was still “to be determined” at the time of filing the application. *Id.* The three options discussed in that section for how to handle what happens to a player that is already playing music when a zone scene is started are different from what Sonos claimed some 16 years later when the ’885 patent was modified during prosecution.

713. The first option given in the provisional appendix is that “the music will stop in any room that is part of the Zone Scene.” *Id.* This is irrelevant because Sonos did not claim this option. The second option is that the “user gets to choose from which of the ;joining’ [sic] Queues the new zone group should play.” *Id.* Sonos did not claim this option either; in the claims, the user is not given any option as to what the zone scene should play. The third option given in the provisional appendix is that “[i]n the case where only one of the zones in the new group was playing music, the new group should take the music (and Queue) of that zone.” *Id.* That too is different from what is claimed in the ’885 Patent. The claims describe a situation where the newly-added zone player will continue playing music in standalone mode until it is overridden by an “invocation” of the zone scene. The claims do not cover the situation where only one of the zone players is playing

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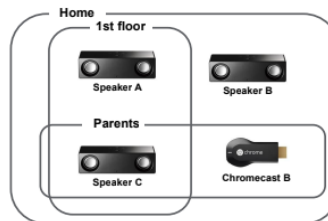
media and upon invocation of the zone scene all players start playing that same media.

714. The specification and provisional appendix at best disclose generic speaker grouping or how to handle particular (unclaimed) situations upon invoking a zone scene. The specification does not disclose the same solution that is claimed, and I understand that merely rendering the claimed solution obvious is insufficient.

715. I understand that in June 2014, Google engineers made a confidential presentation to Sonos that revealed their work supporting overlapping speaker groups. As shown in this presentation below, under Google's proposal, speakers A, B, C, and Chromecast B could all be in a "Home" group, speakers A and C could be in a "1st Floor" group, and speaker C and Chromecast B could be in a "Parents" group. This is the overlapping player functionality that Sonos later claimed without disclosing in its 2006 patent application:

Multi Zone Groups - C4A Device<->Group relationship

- Each C4A device can be a member of several groups
- Chromecasts shall be supported as group members
- Up to ~10 devices speakers in a single group



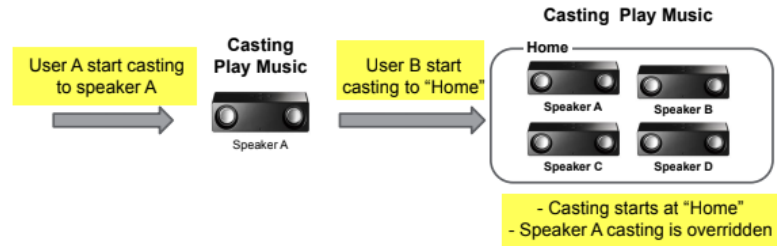
GOOG-SONOSNDCA-00056732 at 756.

716. I understand that Google revealed to Sonos during that same confidential meeting that "casting" to a speaker group where that speaker was already playing music individually would "override" the prior command to the speaker:

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Multi Zone Groups - Overriding previous cast

- For every speaker the last request overrides previous casting



Id. at 761 (highlighted).

717. In Google’s illustration, a user begins casting to speaker A, then a second user begins casting to a Home group that includes speaker A. *Id.* The result is that the prior cast to speaker A is “overridden.” *Id.* Sonos appears to have attempted to mimic Google’s proposal in its claims with its addition of “transitioning” the “standalone” first zone player to one of the zone scenes. I understand that Sonos cites to this very same presentation to allege that Google infringes Sonos’s patent. Dkt. 251 at 17-18 (Sonos Op. MSJ Br.). I reserve my rights to address any infringement opinions that Sonos’s experts may provide, and in my opinion there is not infringement of Claim 1 of the ’885 patent for other reasons despite the similarities identified above.

718. Sonos responded in Reply to the evidence set forth above, and briefing from Google which I agree with and have adopted in part. Below I set forth Sonos’s arguments (Dkt. 274 at 10-12) and my responses to those arguments.

719. Sonos makes five arguments that overlapping speaker groups were disclosed in the original ’885 patent specification:

First, the ’885 Patent discloses that after one “zone scene” has been set up (i.e., created and saved), a user may “go back . . . to configure another [zone] scene if desired” – which conveys to a POSITA that any number of different “zone scenes”

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can be set up for a given system and exist at the same time. See '885 Pat., FIG. 6, 10:51-52; Ex. R, ¶45.

Second, the '885 Patent discloses examples where multiple different “zone scenes” have been set up and are in existence at the same time. See, e.g., '885 Pat., FIG. 8 (disclosing “Wakeup” and “Garden Party” scenes that are in existence at the same time); see also id., 8:52-9:19 (disclosing four different examples of “zone scenes” for a given system); Ex. R, ¶46.

Third, the '885 Patent discloses that when a user is selecting which “zone players to add during setup of each “zone scene,” the user is presented with “ALL the zones in the system, including the zones that are already grouped” – which conveys to a POSITA that each “zone scene” being set up can include any grouping of “zone players” in a multi-zone audio system, regardless of whether the “zone players” are included in any other “zone scenes” and thus that multiple “zone scenes” with one or more overlapping “zone players” can be set up and exist at the same time. See '885 Pat., 10:12-19; see also id., 10:4-6; 10:36-42; Ex. R, ¶47.

Fourth, in the discussion at 8:52 – 9:19, the '885 Patent discloses four different examples of “zone scenes” in a given system that have overlapping members:

- a first “zone scene” named “Morning” that comprises a predefined group of the Bedroom, Den, and Dining Room “zone players”;
- a second “zone scene” named “Evening” that also comprises one predefined group of the Bedroom, Den, and Dining Room “zone players” (as well as another predefined group of the Garage and Garden “zone players”);
- a third “zone scene” comprising one predefined group of “zone players” located “upstairs” and another predefined group of “zone players” located “downstairs” (at least one of which would include the Bedroom, Den, and/or Dining Room players); and
- a fourth “zone scene” that comprises a predefined group of “all zones” in the system, including the Bedroom, Den, and Dining Room “zone players.” See also Ex. R, ¶48.

Fifth, the '885 Patent discloses that “various scenes may be saved in any of the [zone player] members in a group” – which conveys to a POSITA that each “zone player” can be included in multiple different “zone scenes” in existence at the same time. '885 Pat., 2:56-59; Ex. R, ¶49.

720. I disagree with Sonos’s arguments. First, the disclosure from the specification that a user may “go back . . . to configure another [zone] scene if desired” does not indicate that a zone player is a member of multiple zone scenes. Second, any disclosure that “multiple different “zone scenes” have been set up and are in existence at the same time” likewise fails to disclose that any zone player is a member of more than one zone scene. Third, Sonos argues that “when a user is

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selecting which ‘zone players to add during setup of each ‘zone scene,’ the user is presented with ‘ALL the zones in the system, including the zones that are already grouped,’” but this does not disclose a zone player as a member of multiple zone scenes either. While all of the options for zone players to add may be shown, this portion of the specification does not indicate that a zone player already a member of a zone scene would *continue* to be a member of the zone scene if it was selected for a new zone scene. Fourth, the examples given therein do not disclose a zone player that was currently a member of multiple zone scenes; rather, they simply disclose that there are different options for configuring zone scenes, potentially at different times or in different households. Fifth, although the specification discloses that “various scenes may be saved in any of the members in a group,” this does not indicate that different scenes are stored in a single member of a group at the same time, nor that the zone player is a member of each of those different scenes, which may instead comprise zone player members that are not the zone player storing the zone scenes. Finally, to the extent that Sonos intends to rely on “the scenario discussed at 2:5-12, [where] a user could first set up three different “zone scenes” for the morning, evening, and weekend,” this does not disclose simultaneous zone scenes because the zone scenes are named morning, evening, and weekend, indicating that the specification intended to disclose zone scenes for different (non-overlapping) times of day and the week.

721. Next, Sonos argues that there is support for the particular claimed order of operation, and makes four arguments in support:

First, a POSITA would understand that the claimed “standalone mode in which the first zone player is configured to play back media individually” refers to a “zone player” operating in a non-grouped state in which it is configured to play back audio on its own, rather than as part of a group for synchronous playback. See Ex. R, ¶53. As explained above, the ’885 Patent clearly discloses that “zone players” are capable of operating in such a “standalone mode.” Supra II.B.i.; ’885 Pat., 4:44-5:2, 5:21-6:27, 6:39-43; Ex. R, ¶39, 53.

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Second, as explained in response to Google’s first § 112 argument, the ’885 Patent does disclose that a “zone player” can be added to multiple different “zone scenes.” Supra II.B.ii.

Third, the ’885 Patent discloses that a “zone scene” is a group of “zone players” that is “predefined” and “saved” for future use during a “setup” phase, but is not activated for synchronous playback at that time. Supra II.B.i; ’885 Pat., 8:45-51, 10:4-19, 10:36-52, 11:12-19; D.I. 249-11, 1-2, 9-16; Ex. R, ¶55. Rather, the predefined group of “zone players” initially exists in an inactive state, which is what the ’885 Patent explains when distinguishing a “zone scene” from an ad-hoc group that is automatically activated at the time it is formed rather than being predefined and saved for future use. Id. In this respect, the ’885 Patent discloses that, unlike for an ad-hoc group, the act of adding “zone players” to a “zone scene” does not cause those “zone players” to become linked together for synchronous playback at that time. Ex. R, ¶53. This conveys to a POSITA that a “zone player” operating in “standalone mode” prior to being added to each new “zone scene” will continue to operate in “standalone mode” after being added to each new “zone scene.” Id.

Fourth, the ’885 Patent discloses that the subsequent act of “invoking” a “zone scene” is what activates the “zone scene” for synchronous playback by causing the “zone players” in the invoked “zone scene” to become configured to play audio in synchrony in accordance with a given “zone scene.” Supra II.B.i; ’885 Pat., 9:16-20, 10:53-63; Ex. R, ¶56.

722. I disagree with Sonos’s arguments. First, Sonos argues that the specification “clearly” discloses speakers playing back media in standalone mode, but the portions of the specification cited—’885 Pat., 4:44-5:2, 5:21-6:27, 6:39-43—do not clearly disclose such a standalone mode. Second, I already addressed above that the patent does not disclose adding a zone player to multiple zone scenes. Third, Sonos argues that the specification discloses having “zone players” initially exist in an inactive state, but this is not disclosed in the specification. See ’885 Pat., 8:45-51, 10:4-19, 10:36-52, 11:12-19. Those portions of the specification instead disclose ordinary usage of a zone player rather than different “states.” Further, the specification never distinguishes “zone scenes” from “ad hoc groups” by stating that the “ad hoc group” is automatically activated at the time it is formed. Rather, the specification teaches that ad hoc groups may need to be re-formed over time. Sonos concludes that a POSITA would understand based on these portions of the specification that zone players in standalone mode would continue operating

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in standalone mode after being added to a new zone scene, but Sonos cites no direct evidence of this, and instead makes this conclusion from a set of incorrect interpretations of irrelevant portions of the specification. Fourth, Sonos argues that “invoking” a zone scene causes the zone scene to become configured to play audio in synchrony, but this does not disclose that a zone player continues in standalone mode after being added to a group either. Rather, the zone player may have been stopped and then later invoked to play back the different audio in synchrony.

XII. NON-INFRINGEMENT ALTERNATIVES

723. As I will explain (in what I expect will be my forthcoming report on non-infringement), Google’s products do not infringe the ’885 patent. It is thus my opinion that the accused Google products are themselves non-infringing alternatives to Claim 1 of the ’885 patent.

724. Additionally, I understand that Sonos contends that for Claim 1 of the ’885 patent, the date of first infringement in this case is November 24, 2020, the date on which the ’885 patent issued. Based on my current understanding of Sonos’s infringement contentions and my review of the evidence in this case, including documents, deposition testimony and source code, it is my opinion that additional non-infringing alternatives were available at the time of the alleged first infringement (and are still available today).

725. I discuss one of these non-infringing alternatives below. I reserve the right to update, amend, or supplement my opinions based on further evidence offered by the parties or located based on my investigation, opinions proffered by Sonos’s experts, or arguments raised by counsel.

726. I describe an Alternative, an implementation in which when the accused “standalone” speaker is added to a target group, it matches the music (or silence) of the target group. The Alternative is a non-infringing alternative for the Accused Instrumentalities to the alleged invention claimed in Claim 1 of the ’885 patent.

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experience the time-synchronized delivery of media content. *See, e.g.*, '694 patent at Abstract, 10:21-29. Both patents also reference similar hardware such as playback devices and processors as well. *See, e.g.*, '885 patent at 5:21-39, 6:28-48, and '694 patent at 4:31-65, Fig. 1.

XVI. RESERVATION OF RIGHTS

755. In the event I am called upon to testify as an expert witness in this case, I may also discuss my own work, teaching, and publications in the field, and knowledge of the state of the art in the relevant time period. I may rely on handbooks, textbooks, technical literature, my own personal experience in the field, and other relevant materials or information to demonstrate the state of the art in the relevant period and the evolution of relevant technologies. I also reserve the right to rely on demonstrative exhibits to help explain the opinions set forth in this report.

756. I reserve the right to modify or supplement my opinions, as well as the basis for my opinions, in light of new positions set forth by Sonos, to the extent Sonos is permitted to advance those positions. This includes positions concerning the scope and interpretation of the asserted claim, infringement allegations, conception, diligence, and reduction to practice, and secondary considerations. It is also my understanding that Sonos may submit an expert report corresponding to this Report. I reserve the right to rebut any positions taken in that report.

I, Dan Schonfeld, declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

DATED: June 22, 2022



Dan Schonfeld, Ph.D